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**Fermi surface and superconducting gap of  $2H\text{-NbSe}_2$  using  
low-temperature ultrahigh-resolution angle-resolved photoemission  
spectroscopy**

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$2H\text{-NbSe}_2$  exhibits an incommensurate CDW ( $T_{CDW} \sim 35\text{K}$ ) and a superconducting transition at  $T_c=7.2\text{K}$ . Fermi surface was mapped out and the CDW nesting vector was reported to correspond to the hexagonal Fermi surface nesting vector\*. We have studied the Fermi surface (FS) and superconducting gap of  $2H\text{-NbSe}_2$ , using angle-resolved photoemission spectroscopy set to an energy resolution of 2meV and an angle resolution of  $\pm 0.13\text{deg}$ . We clearly resolved all FS sheets predicted from band calculations and found that the observed hexagonal Fermi surface nesting vector centered at  $\Gamma$  point is larger than the CDW nesting vector reported from neutron diffraction. Furthermore, a superconducting gap was successfully observed for  $2H\text{-NbSe}_2$ .

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\*T. Straub, T. Finteis, R. Claessen *et al.*, Phys. Rev. Lett. **82** (1999) 4504.